

Claims:

1. A display element comprising a single layer of porous material, a discrete drop of liquid and means for connecting a voltage supply to the layer, the layer comprising a plurality of conductive particles covered with a lyophobic and electrically insulating covering, whereby on application of a voltage between the liquid and the porous layer the drop of liquid moves into the layer, the drop moving back out of the layer upon removal of the voltage, the movement of the liquid effecting an optical change when viewed from above the porous layer.
2. An element as claimed in claim 1 wherein the conductive particles are metallic.
3. An element as claimed in claim 1 wherein the conductive particles are organic or inorganic particles covered with a conductive shell.
4. An element as claimed in claim 3 wherein the thickness of the conductive shell is chosen to create a coloured particle.
5. An element as claimed in any preceding claim wherein the insulating covering is a polymer, a polyelectrolyte, a fluoropolymer, a self assembled monolayer (SAM) or an inorganic shell.
6. An element as claimed in claim 5 wherein the SAM comprises a molecule with a group that bonds to the conductive particles and a group that provides a high contact angle with the liquid.
7. An element as claimed in any preceding claim wherein the drop of liquid is encapsulated by a flexible membrane.
8. An element as claimed in claim 7 wherein the membrane is transparent.

9. An element as claimed in any preceding claim wherein the porous layer has a pore size greater than 30 nm and less than 2 μ m.

10. An element as claimed in any preceding claim wherein the
5 conductive liquid is created by adding ions to a solvent.

11. An element as claimed in any of claims 1 to 9 wherein the conductive liquid is an ionic liquid.

10 12. An element as claimed in any preceding claim wherein the conductive liquid contains a dye or pigment to provide a coloured liquid.

13. A device comprising at least one element as claimed in any preceding claim including means for connection of each element to a circuit to
15 create a matrix display.

14. A device comprising at least one element as claimed in any preceding claim, the materials of each layer being coated onto a support material.

20 15. A device as claimed in claim 14 wherein each element is environmentally sealed.